



FOX FORX F100X®

PICTORIAL SERVICE MANUAL

THESE INSTRUCTIONS ARE OPTIMIZED FOR

ENDURO FORK SEALS™



RECOMMENDED PARTS

FOR SERVICING THE

FOX FORX F100X®

- Plastic bucket/drain pan
- 2mm Allen wrench
- Flat-bladed screwdriver
- Pocket screwdriver
- 26mm 6-point socket
- 10mm socket
- Ratchet wrench
- Adjustable flat-jawed wrench
- Torque wrench
- Fox Bullet Piston Insertion Tool (optional)
- Clean, "lint-free" rags
- 7 wt. fork fluid
- Fox 5cc Float Fluid Pillow Pack (or 80 wt. fully synthetic gear oil)
- "Super-Slick Grease" or "PrepM"
- Oil syringe (or other measuring device)
- Shock pump
- 13mm wrench
- Rod clamps (optional)



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1) Adjust the rebound dial to approximately mid-point. (Right side of the fork from rider's view)

This is to avoid putting pressure on the rebound adjusting components while removing the retaining screw.



2) Adjust the Bump Sensitivity Threshold knob to approximately mid-point. (Right side, bottom of the fork from rider's view)



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3) Remove the bump threshold adjusting knob.

Use a 2mm Allen wrench to loosen the set screw.



After loosening the set screw, the bump threshold knob will drop off of the foot-nut assembly.



4) Use a 10mm wrench or socket to remove the foot nut from the bottom of the right leg.

NOTE: Oil may discharge from the bottom of the fork at this stage, so have an oil collecting bucket in place underneath the fork.



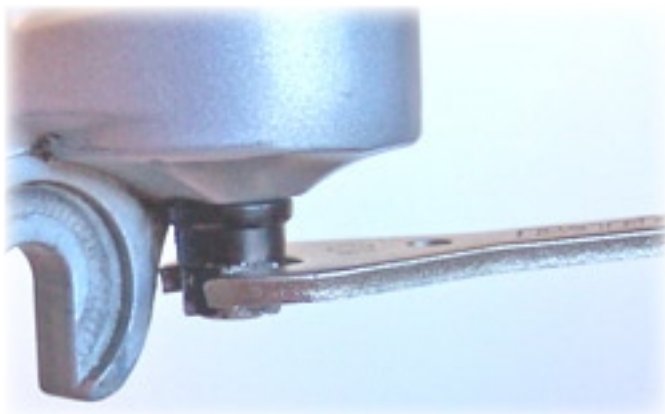


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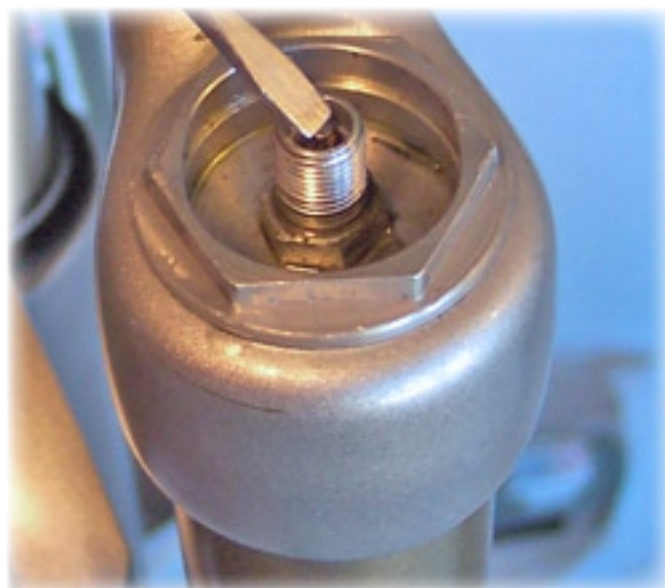
5) *Invert* the foot nut and thread it back part way onto the damper rod.

Do not thread the foot nut up higher than the threshold adjusting rod. The purpose of this step is to allow the rod to be driven up into the fork leg without damaging the adjusting nub. For now, move to the other fork leg.



6) Loosen the foot nut on the air spring side (rider's left) so that 4 or 5 threads are showing.

Again, be sure and have something ready to catch the oil.



7) Release air from the fork leg by depressing the Schrader valve at the top.

A small amount of oil may discharge with the air.



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8) Using a plastic-faced mallet (or other suitable means), give the foot nut a sharp upwards blow to drive the rod into the lower leg.

Note that the exposed threads disappear when the rod is successfully driven into the lower leg.



9) Remove the foot nut and be ready for oil...

Push the rod up into the leg to allow proper drainage.

The left leg contains about 20cc of 7wt synthetic suspension fluid.

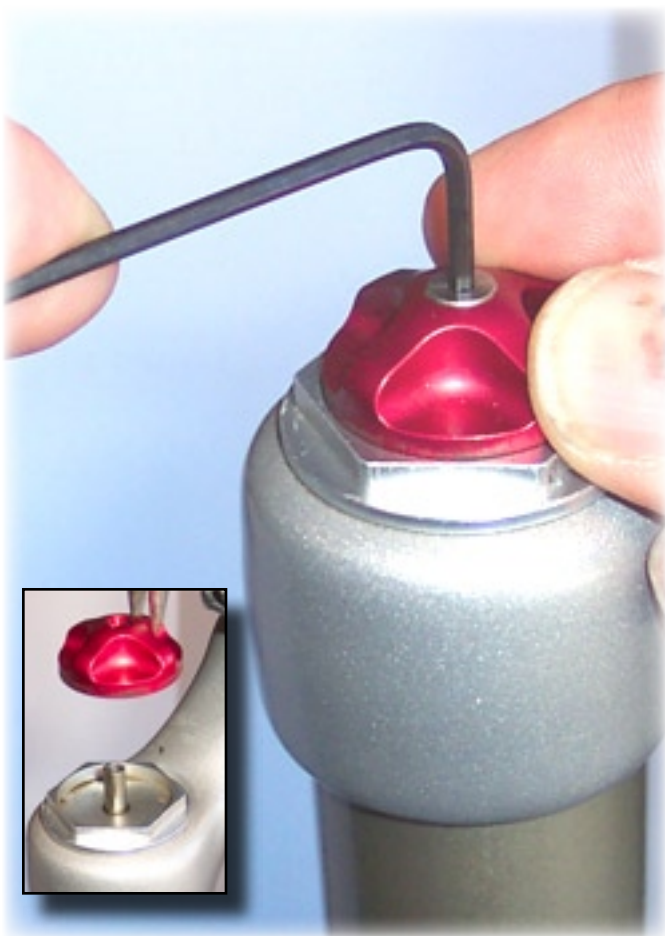


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10) Returning to the damper leg, drive the rod up into the lower assembly.

Be prepared for oil...



11) Remove the rebound adjuster knob.

Hold the knob securely to keep it from rotating.

Loosen the set screw with a 2mm Allen Wrench.

If you have difficulty pulling the knob straight up and off, use some needle-nosed pliers.



12) Remove the damper assembly.

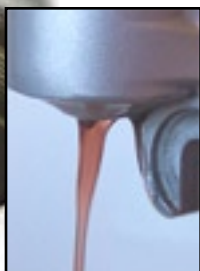
a) Use a 26mm 6-point socket to loosen the top cap.



b) As you lift the damper assembly out of the fork, the remaining damping oil will drain out the bottom of the lower leg.

c) Over the oil collection bucket, shake the damper up and down (to activate the “brass mass valve”) and drain out the oil. Periodically pump the rod in and out and continue shaking the damper up and down until the bulk of the oil is drained.

d) Set the damper assembly (pictured at right) aside for now.





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13) Pull the lowers off of the stanchion tubes.



14) Remove the wiper seals.

Start by gently prying at the notches under the outer edge of the wiper, moving from notch to notch until the wiper begins to lift out of the seal head area.





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15) Remove and discard the foam rings.
(New rings are provided with your Enduro Seal Kit)

16) Inspect the lower/slider assembly. If the lowers are exceptionally clean inside, proceed to step 21. Otherwise, proceed to step 17.

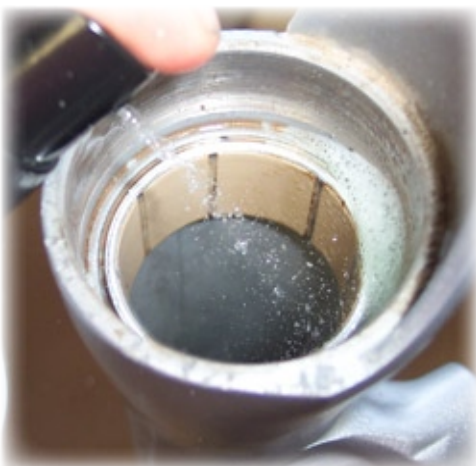


17) This is a bottom-out bumper. There is one in the bottom of each of the lower legs. It's easier to clean the lowers with these removed (otherwise they trap dirt and moisture during the cleaning process).

Usually, inverting the lowers and tapping the legs against the palm of your hand will break the bottom-out bumpers loose. Keeping the fork inverted, use a small diameter rod to push them past the bushings and out of the through the tops. You can also pull them out of the top using a wire with a hook bent into the end.



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18) Clean the lower assembly.

a) Place the lowers in a suitable sink or container. Spray the inside of the legs with a biodegradable degreaser.



b) Using a suitable bottle brush, scub the inside of the legs with the degreaser.

c) ADD VERY HOT WATER AND DISH SOAP TO THE BRUSH and continue scrubbing.

d) RINSE THOROUGHLY WITH VERY HOT WATER. The hot water not only helps to cut the oil; it also heats up the lower assembly so that during the drying process, much of the work is done by evaporation.



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19) Dry the lowers with a lint-free absorbant towel.

If necessary, use a blow drier to remove any remaining moisture.

20) Don't forget to drop the bottom-out bumpers into each lower leg. Use a rod to push them flat on the bottom of the legs.



21) Use Super-Slick Grease® to lubricate the seal reception area of the lowers. Note that the machining is *stepped*. The foam rings go past this ledge, and sit directly on top of the bushings. The inner oil seal, when pressed down onto the foam ring, will rest just above this ledge.



22) Insert a new foam ring into the seal head.



The foam ring will sit directly on top of the bushing.



23) Lubricate the outside edge of the new inner oil seal before starting it into the seal head. Please take note of the correct orientation of the oil seal:

The writing faces up (away from the oil).



The groove and garter spring face down (toward the oil).





24) Start the new oil seal into the seal head as evenly as possible.



25) Using a seal press or an inverted socket (pictured), press the new oil seal until it is evenly seated against the foam ring.





26) Lubricate the outside edge of the new wiper.



27) Start the wiper into the seating area by hand.

NOTE: If you have difficulty starting them by hand, place the wipers in the freezer for a few minutes. This causes the steel ring inside of them to contract, slightly reducing the outside diameter and easing installation.

28) Fully seat the wiper against the lower assembly.

You may be able to do this by hand. If necessary, a short section of PVC pipe works well.

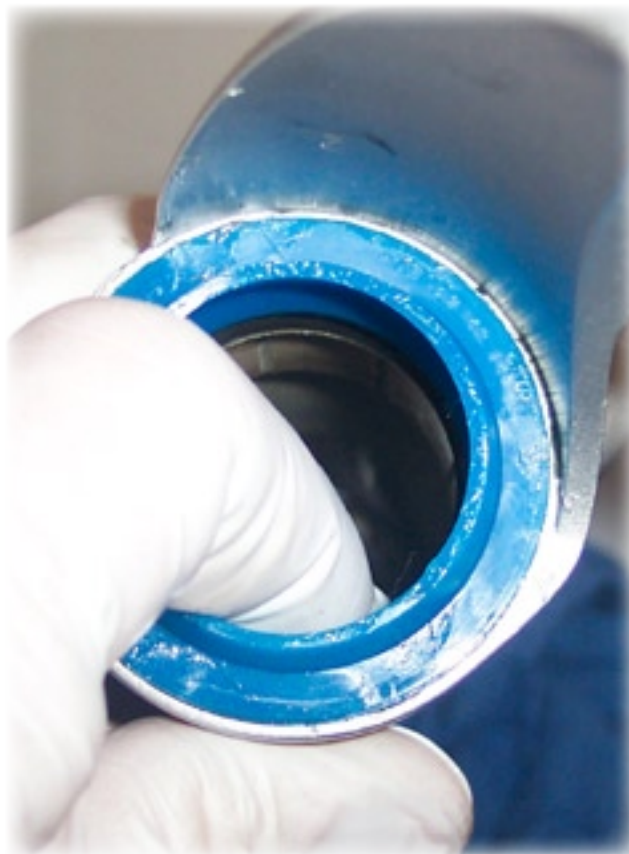




29) Grease the insides of the seal and wiper and push the foam ring toward the outer circumference of the leg. Be sure the foam ring does not protrude past the oil seal.

(The idea is to keep the fork stanchions from catching on the foam rings when the fork is re-assembled)

COMPLETE STEPS 21-29 FOR THE OTHER SIDE OF THE LOWERS; THEN SET THE LOWERS ASIDE FOR NOW...





30) Release any remaining air from the air spring Schrader valve and remove the top cap.

Use a 26mm 6-point socket to remove the top cap.



31) Drain the 5cc of FLOAT fluid (or equivalent).

Not sure what was last used in this fork, but it doesn't look so good....



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32) Remove the Air Shaft/Air Piston assembly.

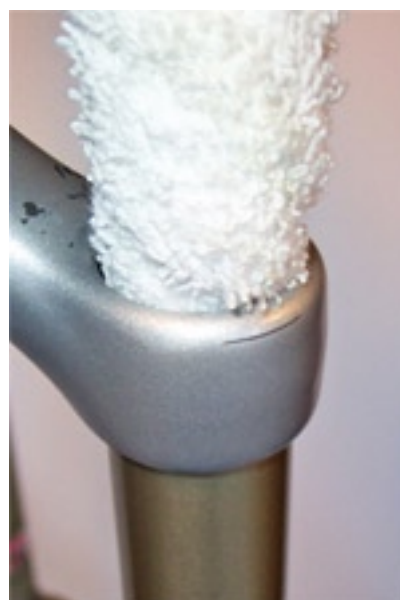
a) Push up on the shaft until just before it disappears into the upper leg.

b) Use a rod or similar device to push the air piston up to the top of the fork crown.

c) Carefully push the air piston past the top cap threads and remove it from the upper assembly.



33) Clean and dry the inside of both stanchion tubes.



34) Use Super-Slick Grease® or other suspension grease to lube the left side threads and the outer diameter of the air piston.



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35) Re-insert the Air Shaft/Air Piston assembly into the left upper leg.

TIP: To protect the air piston seals and make the job much easier, use the Fox 32mm Bullet Tool to guide the piston back into the leg.



As you gently push the piston past the threads, guide the rod through the hole at the bottom of the the stanchion tube. You can then ease the piston head past the threads by pulling on the rod as you apply downward pressure on the piston.

(At this point you may come to appreciate the importance of the lubrication used in step 31, as it can be difficult to get the piston head past the threads)





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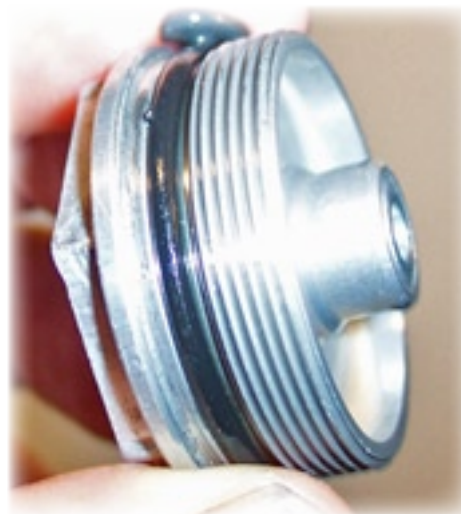
36) Inject 5cc of FLOAT Fluid (or 80wt fully synthetic gear oil) into the air chamber.

This layer of oil sits on top of the piston helping to form the air seal and provide lubrication.

The 5cc Fox Float Fluid Pillow Pack is a convenient way to get just the right amount of fluid on top of the air piston.



37) Lubricate the O-ring and threads of the top cap. Tighten the top cap by hand.





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38) Torque the top cap.

FOX says to torque to 165 inch-pounds.
Seems like about half of that would be adequate...

39) Add about 50 PSI to the air chamber to keep the air shaft fully extended.





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40) Put the lower/slider assembly back onto the upper legs.

a) Verify that the foam rings are not protruding past the oil seals (see Step 29). Carefully start one wiper onto the beveled edge of its respective stanchion tube and hold it in place while you work the other wiper over its respective stanchion.

b) Slide the lowers part way onto the stanchion tubes and invert the fork (the threads of the air piston rod should NOT be protruding through the hole in the bottom of the lower leg or you have pushed the lowers too far onto the stanchions)..

41) Inject approximately 20cc of 7wt suspension fluid into the bottom of the air spring leg (rider's left) and slide the lowers down until the air piston rod protrudes through the hole.

Recommended suspension fluid:

**FOX SYNTHETIC RACING
FORK FLUID, 7 WT.**

OR

**TORCO RACING SHOCK FLUID,
MEDIUM**



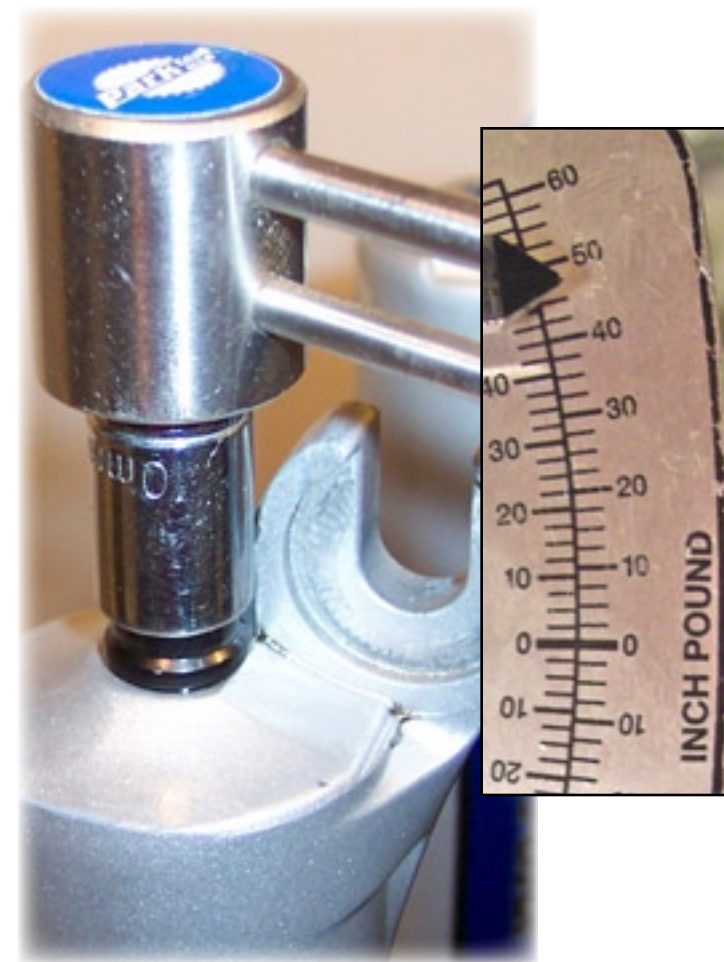
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42) Install the air spring side crush washer and foot nut.

Always replace the crush washer. The old crush washers fit too tightly and may interfere with proper alignment of the rod.

Replace the foot nut and tighten by hand.

c) Torque the foot nut to 40-50 inch-pounds. Set the fork aside to service the damper.





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43) Remove the Terralogic/Base Valve from the damper assembly.
(Skip to Step #55 if you do not want to open and inspect the damper assembly)

Note: In working with the various shafts and other cylindrical parts, use the Fox Forx “Shaft Clamps” or a suitable substitute (the pictured tool is part of a copper tubing flare tool). The key point here is to securely grasp the parts without scratching or distorting them.

a) Clamp the base valve assembly.

b) Use a 13mm wrench on the seal head assembly to back the damper tube out of the base valve assembly. If the seal head itself starts unthreading, you may need to clamp the damper tube and use a wrench to wind off the base valve.

c) Remove the base valve assembly from the clamp (still pictured in the clamp).



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44) Drain remaining oil from the Terrallogic/Base Valve assembly.

Shake the assembly over the oil collection bucket. (In the picture, the clamp is removed for clarity, but should be left attached for the next step)



45) Remove the Terrallogic/base valve from its protective “housing.”

a) Use a good quality adjustable wrench on the “flats” of the base valve and unscrew it from the housing.



b) Slide out the “Brass Mass” assembly.





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46) Test the action of the “Brass Mass” valve.

As pictured at left, the brass assembly rests in the “up” position, concealing the oil port.

Simulating “bumps” by quickly thrusting the assembly upwards will cause the brass assembly to drop down, exposing the oil port (see below).





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47) Re-install the assembly into its protective housing.

a) Use a very small amount of blue Loctite® on the threads.



b) Start the assembly by hand and tighten using the shaft clamp and a quality adjustable wrench.

(Factory torque specification is 55 Inch Pounds.)

Set the base valve assembly aside for now.





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48) Remove the damper assembly from the damper tube.

a) Clamp the damper tube and loosen the seal head with a 13mm wrench.

b) Remove the damper assembly for inspection. If the seal head needs to be replaced, proceed to step 49. *Otherwise, skip ahead to Step #54.*

49) Remove the Top Cap from the Damper Assembly.

a) Remove the detent ball set screw.



b) Remove the spring. If the detent ball is loose, remove it now and set it aside. If it does not want to roll out, leave it in place for now.

c) Secure the shaft and loosen the top cap using a 6-point 26mm socket wrench.



d) Pull the top cap off the end of the shaft. If the detent ball has not yet been removed, be careful not to lose it.



e) The easiest way to remove the detent ball is to push it straight back and let it fall out of the center of the top cap.





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50) Remove, inspect, and re-install the seal head from the damper shaft.

a) Slide the seal head off of the shaft.



b) Inspect the seal located near the top of the seal head. Lubricate with Super-Slick Grease®.



c) Lubricate the end of the shaft to reduce the chance of damaging the seal when installing the seal head.



d) Slide the seal head onto the shaft.





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51) Re-install the damper shaft into the damper tube and torque the seal head to 55 inch-pounds.



52) Re-install the top cap onto the damper rod.



a) Lube the O-ring(s).



b) Thread the top cap on by hand.



c) Torque to 55-90 inch-pounds.



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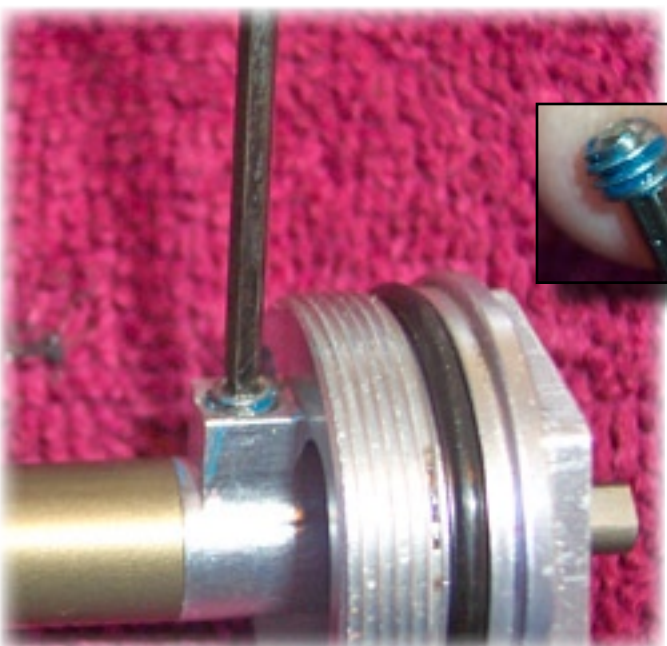


53) Re-install the detent ball into the damper top cap.

a) Put a small dab of grease on the ball bearing and drop it into place.



b) Insert the spring into the hole, on top of the detent ball. Wipe the opening and threads clean of grease.



c) Adequately coat the set screw threads with “blue” Lockite®. This not only keeps the screw in place put also FORMS AN AIR SEAL.

d) Tighten the set screw until it is flush with the flat surface.



54) Attach the base valve assembly to the damper tube.

Apply a small amount of Loctite® to the threads and torque to 55 inch-pounds.

You are now ready to re-install the damper assembly into the fork leg.



55) Install the damper assembly into the right leg.

a) Lube the O-rings at the bottom of the damper.





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b) Guide the end of the damper rod through the hole in bottom of the leg.



c) Hand thread the top cap 3 or 4 turns into the top leg to keep the damper assembly properly aligned while you tighten the foot nut.



d) Invert the fork and place a new crush washer over the shaft end. Apply some grease or anti-seize compound on the threads.

e) Pry the old crush washers out of the foot nuts (if you haven't already) and hand tighten the foot nut.



f) Torque the foot nut to about 50 inch-pounds.

56) Re-install the bump threshold adjuster knob.

a) Line up the knob set screw with the detent on the shaft extension.

b) Torque the set screw to 4 inch-pounds.





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57) Add the proper amount of suspension fork fluid to the damper side.

a) Unthread the top cap (remember in Step #52c the top cap was only partially threaded in).

b) Release the air from the air chamber (left leg) and partially compress the fork.

c) Add 155cc of Fork Fluid *in stages*, compressing and extending the fork and pumping the damper after adding the fluid incrementally. NOTE: 150cc for F80X.

Recommended suspension fluid:

**FOX SYNTHETIC
RACING FLUID, 7 WT.**

or

**TORCO RACING SHOCK FLUID,
MEDIUM**





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58) Tighten the top cap.

Thread the top cap in by hand and torque to specification (Fox recommends 165 inch-pounds, but anything over 55 inch-pounds should be adequate).



59) Install the rebound adjustment knob.

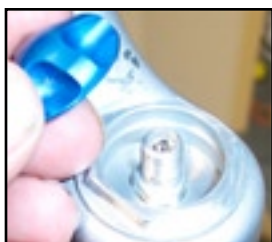
Torque the retaining screw to 11 inch-pounds.





60) Set the initial air spring pressure on the left side:

<u>RIDER WEIGHT</u>	<u>AIR PRESSURE</u>
<125 LBS.	45 PSI
125-135 LBS.	50 PSI
135-145 LBS.	55 PSI
145-155 LBS.	65 PSI
155-170 LBS.	75 PSI
170-185 LBS.	85 PSI
185-200 LBS.	95 PSI
200-215 LBS.	105 PSI
215-230 LBS.	115 PSI
230-250 LBS.	125 PSI



Use the above guidelines to get started, adjusting the pressure up or down based on desired ride quality, whether or not the fork tends to bottom out, etc.. Be sure to replace the blue air cap.

61) Make initial rebound and bump threshold adjustments.

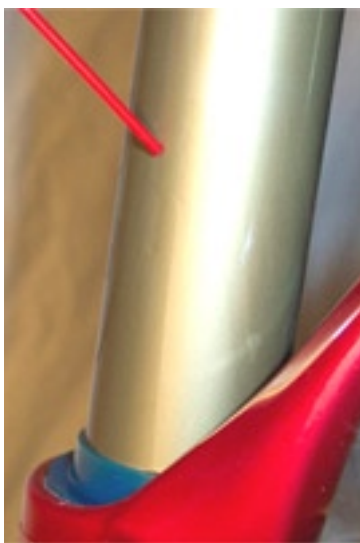
The red knob at the top of the right fork leg is the rebound adjuster knob. Turning it clockwise will result in slower rebound. Turning it counter-clockwise will result in faster rebound.

In theory, the “FX” fork series is always “locked out” to rider input--only being activated by actual bumps on the trail. The size of bump required to “overcome” the lockout can be adjusted by use of the blue “bump threshold” adjustment. As indicated, full counter-clockwise adjustment requires the least amount of input from the ground to activate the suspension. If the knob is turned clockwise, a larger bump will be required to activate the suspension.





PROPER CARE OF YOUR
ENDURO FORK SEALS™



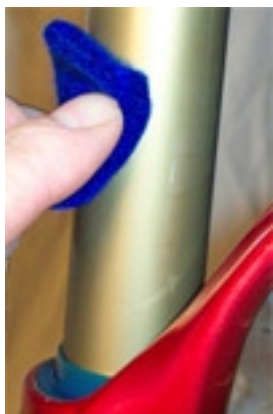
Even in relatively clean and dry conditions, you will find that the stanchions and top edges of the wipers get dirty.

Use a soft, clean cloth to carefully clean the stanchion tubes and wipers.

Drizzle some Stanchion Lube™ onto the clean stanchion tubes and allow it so settle on the tops of the wipers.



Stanchion Lube™
by Finish Line®



Compress the fork a few times. Using a soft cloth work the excess Stanchion Lube™ into the upper legs.

Before each ride, rotate your bike backwards over the rear wheel, allowing the oil to pre-lube the stanchion/bushing interface and inner oil seal. This will extend the life of your seals and bushings.

